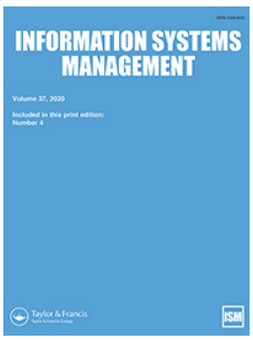
COVID and Opportunities for Information Systems Management Research

Berghout, Egon

Published in:
Information Systems Management

DOI:
10.1080/10580530.2020.1820640

Publication date:
2020



Information Systems Management

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/uism20

COVID and Opportunities for Information Systems Management Research

Egon Berghout

To cite this article: Egon Berghout (2020) COVID and Opportunities for Information Systems Management Research, Information Systems Management, 37:4, 357-360, DOI: 10.1080/10580530.2020.1820640

To link to this article: https://doi.org/10.1080/10580530.2020.1820640

Published online: 12 Sep 2020.

INFORMATION SYSTEMS MANAGEMENT
2020, VOL. 37, NO. 4, 357–360
https://doi.org/10.1080/10580530.2020.1820640

Taylor & Francis
Taylor & Francis Group

COVID and Opportunities for Information Systems Management Research

Egon Berghout

Department of Innovation Management & Strategy, University of Groningen, Groningen, The Netherlands

ABSTRACT
COVID currently heavily impacts our life, poses many restrictions to our way of working and possibly affected your health or that of your beloved ones. Many researchers will be hindered in their research contacts or experience increasing educational duties. However, new research opportunities also emerge. In this paper, we will explore new research opportunities for information management research, based on the characteristics of the COVID crisis.

KEYWORDS
COVID; research opportunities; information systems management; IT Governance

Introduction

At the time of writing, the number of confirmed COVID cases is exceeding 11 million and continues to escalate worldwide (WHO- World Health Organization, 2020). Many regions have responded with lockdowns of, industry, schools, public transport, and social life. Experts regularly disagree on countermeasures, politicians disagree even more, and individuals have to make sense of what is safe for your family, your parents, your colleagues and yourself. We are still unaware of many vital characteristics of the pandemic. How will COVID evolve? Viruses change over time, making them more or less infectious and lethal. To what extent will we be able to improve our treatments? Are vaccines going to be effective and safe? How long is immunity through such a vaccine going to be effective?

COVID heavily impact our professional and social life. Digital communication often replaces physical contacts, being office meetings, meeting students, purchases or catching up with your family. One of the largest internet exchanges in the world, the Amsterdam Internet Exchange, reported a 17% increase in volume during the first few months of the pandemic (AMS-IX, 2020), however, for instance, ZOOM saw it's 10 million daily video conferencing users exploding to 200 million (Yuan, 2020).

Lock downs and uncertainty negatively impacts production and household spending, and, as such, the economic crisis is hard to avoid. Governments may try to compensate the crisis through additional spending, however, underneath these decreasing household spending, there will also be structural demand changes, for instance, in terms of online purchases, less traveling, increasing home investments, and less commuting. Demand changes will increase, if social distancing remains necessary for a longer period. This has a major effect on the profitability of tourism, shopping, restaurants, office spaces, and industry, and therefore the economy as a whole.

Due to COVID many businesses face demand changes at a time that many businesses were already struggling with the digitization of their business models. Some organizations were extremely fast in updating their business model, such as the European online fashion retailer ZALANDO. They created a free service to collect returns from homes within two weeks' time after the lockdowns in Europe. Many restaurants changed into takeaways. Anything to reopen the business.

In this paper we will examine opportunities for our academic field of research. In the following section the most prominent areas will be discussed. Subsequently, prerequisites for recovery will be described and the conclusions of this paper.

COVID and research opportunities

Major crises also create new opportunities. In this section, we discuss where opportunities for our field of research exist or could emerge.

Collaborative systems

Many people currently work from home or need to maintain international contacts through online communication tools. Technology that has been developed by groupware researchers for so many years is suddenly

CONTACT Egon Berghout e.w.berghout@rug.nl Department of Innovation Management & Strategy, University of Groningen, Groningen, The Netherlands

mainstream communications (Hengst & Vreede, 2004). Prominent suppliers, such as, Microsoft and Google provide suites for online collaboration. The explosion of ZOOM users in the early days of the pandemic also illustrates the many imperfections in this area. Few people had probably heard of ZOOM, which emerged out of CISCO's Webex. The Webex engineers received insufficient credit to develop their platform, because many considered the online communication business being saturated.

Today, few people see this business as saturated, but as vibrant and rich of opportunities. Particularly, *seamless integration* of office functionality, adaptability, robustness, and user friendliness are key characteristics. Mobile integration is also important here. Existing mixed, or virtual, reality application focus on extending *personal experiences* through the inclusion of holograms where you can jog behind another runner in your daily workout routine or receive exhaustive guidance in repair activities. Hologram-based virtual groupware also provides many opportunities to enhance online experiences where colleagues could virtually be in the same room.

Effective use of collaborative systems

The effective use of collaborative systems requires additional attention, particularly for the readers of ISM. Working from home has become more accepted, however, also seems counterintuitive. Most organization have complex tasks to fulfil through the cooperation of many individuals. In order to improve these working processes, individuals need effective and multifaceted communications and less effective communication often quickly leads to stereotyping and decreasing communications (Barley & Kunda, 2001). Why do students find it often difficult to learn solely from books or videos? Apparently, the social activity of learning, where students receive many signals of confirmation or mistakes in their learning, is of key importance. In today's online learning environments such interaction is hardly supported and often frustrated through privacy restrictions. Most homes in industrialized areas are also hardly suitable for entire families working from home.

We should, therefore, investigate the effective use of collaborative systems for various tasks and organizational environments, because office meetings and business traveling might be restrained for longer periods. Such research has been done in the open source software development community, however, groups of software developers hardly represent the average office (Crowston et al., 2007). The economics of working from home, therefore, seem particularly interesting to research. Because working from home also impacts family life and environmental issues, this could very make investments in collaborative computing extremely valuable if done well, where todays organizations still often see these investments as relatively expensive. Effective use of collaborative systems should allow organizations to quickly adapt new business processes in flexible network-based organizations. The momentum is here, before slipping back in old habbits.

Online education

Effective use of collaborative systems is closely related to online education. As research topic, online education has always been interesting, because everybody understands that most juveniles in the world hardly have access to campus-based education. Effective online teaching models can truly impact this world. The economics of online teaching models are also extremely appealing because these include significant upfront investments, however, limited marginal cost per student. As such, these online teaching models would also be threatening for established institutions, because they come with the winner-takes all phenomenon that we find in most digital models. Improving our online education through better interaction and more rich content, is important for our own institution, however, also addresses a global issue of global inclusion.

Cybersecurity

Cybersecurity long surpassed the status of final course book chapter. In all circumstances our systems should be able to control confidentiality, integrity, and availability (WEF – World Economic Forum, 2020). The European Economic Union recently founded ENISA, the European Agency for Cybersecurity, to establish guidelines for such a safe digital world. These guidelines are increasingly necessary because we are building our systems on top of other systems, which often makes the security of one systems as strong as the weakest link. The development of digital security seems similar with the development of car security, where cars were initially unregulated, but nowadays require third party assurance before they are allowed on our roads. There is very little third-party assurance in our current digital world. In fact, there is even little third-party assurance regarding the digital systems in our cars. We have to develop effective guidelines for our critical infrastructures, for financial systems, for cloud systems, for internet-of-things and smart infrastructures, for data protection and for the cyber security specialists that need to assess those systems.

Privacy and technostress

The success of classroom teaching, certainly compared to online teaching models, remains fascinating. The classroom basically takes you out of your comfort zone, decreases your privacy and introduces stress of being compared with others. However, this type of learning has long been part of our heritage and has proven extremely successful. Today, various applications provide new forms of technostress, loss of privacy and we have little experience to deal with these issues. Digital proctoring, COVID apps, location tracking devices, and always-on communication tools challenge our privacy. The increasing success of face-recognition has been identified as a serious threat to privacy by the European Union (ENISA, 2008), however, has been officially used to nudge public behavior in China. Today's information systems are potentially extremely harmful for our privacy and through increasing computing, data gathering and interconnectivity of systems our privacy will even more at risk.

Similar to the 9/11 attack to the twin towers, COVID sometimes requires unusual measures to protect our safety. Often COVID-apps have been used to force certain behavior and the consequent amount of technostress is without precedent. In the coming time period, we have to rebalance these measures and their privacy concerns based on research regarding the effectiveness of these measures.

COVID and global recovery

Global businesses and tourism have certainly facilitated the spreading of COVID. Overcoming COVID also requires a global approach, because the virus will continue to evolve and resurrect until it has been expelled from the last region. Helping others, possibly less privileged regions, therefore, remains of crucial importance for the recovery of other regions. In science we have developed some sort of common understanding and common language to discuss the quality of our work and progress our understanding of phenomena. In global politics we often go without these mechanisms and find it difficult to resolve global issues, especially at a time of crisis, when global issues are also often subordinate to local politics.

Technology makes organizations more resilient and speeds up necessary innovation. Healthcare has innovated the online treatment of patients, education embraced digital platforms and companies integrated working form home concepts at an enormous speed. The crisis is also a source for innovation and information systems offer abundant opportunities for organizations to recover and innovate. Innovation is also always hard to predict. People crave for a fast horse, not a car. A vaccine would best help our economic recovery. In the meantime, economies require stability, because safer conditions allow for more consumer spending and consequently economic recovery. Whatever happens, business will have to adapt to the new economies of scale.

Conclusions

Bill Gates predicts that COVID can be eliminated by the end of 2021 and let us hope that he is true (Economist, 2020). Whatever happens, COVID is one of a wake-up call. COVID learns us to appreciate things that we truly had forgotten and also shows us that some of our routines turned out to be less important. COVID has a major impact on the economic efficiency of many businesses and will therefore have an enormous impact on our society. COVID also reconfirms the importance of research and academic thinking.

Digital solutions will almost always be part of the newly developed organizational processes, whether it concerns innovations in, healthcare, safety, education, industry, or government. Many opportunities for innovation reside in the area of information systems management. Our discipline has to identify superior business and IT management models for traditional, but foremost for new organizations. The long-term effects of COVID on our economy can hardly be exaggerated.

Notes on contributor

Egon Berghout is Academic Director of the IT Auditing & Advisory Program at Erasmus University and Chair of Information Systems at the University of Groningen. He is specialized in the creation of sustainable strategic advantage through IT and publishes in journals, such as, *Information Systems Management, Information & Management, Computers in Industry, Information & Software Technology and IEEE Software*. He also directs the Information Management Institute, which advices multinationals and governmental institutions on (IT) strategy, IT added value improvement, efficiency improvement, governance and sourcing.

References

AMS-IX. (2020, March 25). 17% traffic increase on the AMS-IX platform due to Corona/COVID-19 crisis, *AMS-IX News*. Retrieved from https://www.ams-ix.net/ams/news/17-traffic-increase-on-the-ams-ix-platform-due-to-corona-covid-19-crisis.

Barley, S. R., & Kunda, G. (2001). Bringing work back in. *Organization Science*, *12*(1), 76–95. https://doi.org/10.1287/orsc.12.1.76.10122

Crowston, K., Li, Q., Wei, K., Eseryel, U., & Howison, J. (2007). Self-organization of teams for free/libre open source software development. *Information and Software Technology*, *49*(6), 564–575. https://doi.org/10.1016/j.infsof.2007.02.004

Economist. (2020). The COVID-19 pandemic will be over by the end of 2021, says Bill Gates. *The Economist*, 18 August 2020.

ENISA. (2008). *Web 2.0 security and privacy*. *ENISA - European Network and Information Security Agency*. Retrieved from https://www.enisa.europa.eu/publications/copy_of_report/at_download/fullReport.

WEF - World Economic Forum. (2020). *The global risk report* 15th. World Economic Forum.

Hengst, M., & Vreede, G. J. D. (2004). Collaborative business engineering: A decade of lessons from the field. *Journal of Management Information Systems*, *20*(4), 85–113. https://doi.org/10.1080/07421222.2004.11045782

WHO- World Health Organization. (2020, August 31). *WHO coronavirus disease (COVID-19) dashboard*. *World Health Organization*. Retrieved from https://covid19.who.int/.

Yuan, E. S. (2020, April 1). *A message to our users*. ZOOM Blog. Retrieved from https://blog.zoom.us/a-message-to-our-users/.